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AUTHOR Halaby, Charles N.
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ABSTRACT

Sexual inequality is rooted in systematic male-female differences in employer-employee exchanges of productive resources for employment and pay. In an analysis of the effects of the differential distribution of personnel across the major job classes and hierarchical levels of a large utilities firm, the degree to which the male-female salary gap is due directly to wage discrimination, or indirectly to sex segregation, was determined. An examination of the relation between earnings, position and human capital was used to ascertain the degree and nature of sexual differences in salary regimes. It was found that sex accounted for 31% of the variance in salary, but that most of this difference was due to male-female disparities in schooling and seniority. Further analysis revealed that sexual inequality can be traced to job and rank segregation along sexual lines. While job segregation may reflect the companies' decisions not to consider women for certain positions (or a dearth of qualified women), rank segregation more closely reflects company policy. Rank segregation occurs because the company transforms female human capital into higher rank at a lower rate than male capital, that is, promoting men to the highest rank to which their jobs lead but not promoting women hired for the same jobs. (Author/KR)

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SEXUAL INEQUALITY IN THE WORKPLACE: AN EMPLOYER-SPECIFIC ANALYSIS OF PAY DIFFERENCES

Charles N. Halaby

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SEXUAL INEQUALITY IN THE WORKPLACE:

AN EMPLOYER-SPECIFIC ANALYSIS OF PAY DIFFERENCES*

Charles N. Halaby
Department of Sociology
University of Wisconsin
Madison

1978

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ABSTRACT

This paper reports an analysis of employer-specific sex differences in the processes governing the salary attainment of personnel of a large company. The two dominant theories of inequality both view discrimination as the operative cause of pay differences, but locate the structural source of discrimination at different points in the employer-employee exchange space. The wage discrimination hypothesis asserts that the economic disadvantage of women issues directly from the pay practices of employers, with women receiving "unequal pay for equal work." The crowding, or employment segregation, hypothesis asserts that inequality issues from the employment practices of employers; disparities in the allocation of jobs and promotions result in segregation along sexual lines, with women relegated to the lower-paying positions. The findings show that both wage discrimination and sexual segregation in the company's job and rank structures contribute to inequality, but that the latter is more important. The implications for the issue of discrimination are briefly discussed.

Sexual Inequality in the Workplace:
An Employer-Specific Analysis of Pay Differences

1. INTRODUCTION

Women earn less than men, and even after adjusting for differences in levels of productive resource endowments there remain substantial residual disparities in the earnings of demographically comparable working men and women. These residual disparities are, in turn, largely attributable to male-female differences in earnings structures, with men benefiting from higher rates of return to units of human capital. These patterns have been established repeadedly by research pertaining both to the labor market as a whole and to occupation-constant groups of men and women (Suter and Miller, 1973; Treiman and Terrell, 1975; Featherman and Hauser, 1976). What such research has not shown and what remains uncertain are the sources of structurally induced earnings differences. In the absence of data on specific employers or types of employers, aggregate (i.e., over employers) analyses cannot represent directly the range of specific mechanisms by which structurally induced earnings differences are generated.

In a fundamental sense sexual inequality is rooted in systematic male-female differences in the processes governing employer-employee exchanges of productive resources for employment and pay. Other things equal, earnings differences between men and women holding comparable stocks of human capital may reflect 1) between-employer differences due to the unequal distribution of male and female employment across high- and low-paying employers; and/or 2) within-employer differences caused by systematically denying women (a) equal pay for the same position, and/or (b) equal-paying positions for the same qualifications. More attention needs to be devoted to determining the significance of these different mechanisms.

Recently there has been important progress in this direction, especially regarding the between-employer component of sexual inequality. Talbert and Bose (1977:417) report that among retail clerks "the major structural source of economic advantage for male clerks is their greater concentration in higher-paying specialty stores..." as compared to department and discount stores. Similarly, Johnson and Stafford (1974) found that aggregate male-female earnings differences among academic faculty could be partially explained by the differential distribution of men and women across the lower-paying teaching institutions and the higher-paying research universities. These and other bits of evidence (Cohen, 1971; Sawhill, 1973; Goldfarb and Hosek, 1976) suggest that the structurally induced earnings differential observed in aggregate analyses may in fact reflect between-employer differences resulting from the segregation of occupation-specific labor markets along sexual lines.

Although within-employer sexual differences in earnings have been the subject of a great deal of informed speculation, much less is actually known empirically about the level and nature of these differences. To be sure, we may plausibly infer than men typically earn more than women, and that this male advantage is typically due to their more favorable earnings structure. But it is precisely at this point that the empirical evidence weakens and theories of within-employer sources of structurally induced earnings differences take over. The two dominant theories both view discrimination as the operative cause of inequality, but locate the structural source of discrimination at different points in the employer-employee exchange space. The wage discrimination hypothesis asserts that the economic disadvantage of women issues directly from the pay practices of employers. It leads us to expect "unequal pay for equal work," with the male-female pay differential exceeding

the corresponding productivity differential because of discrimination (Becker, 1971). The crowding hypothesis, of which Bergmann (1971) is the most notable recent proponent, asserts that the employment rather than pay practices of employers are the operative source of male-female earnings differentials. Males and females alike are paid the value of their productive contribution, but disparities in the allocation of jobs and promotion result in segregation along sexual lines, with women crowded into the lower-paying and lower-productivity positions. In a manner of speaking, structurally induced earnings differences are attributed to "unequal opportunities for equal qualifications."

That there is so little direct evidence bearing on these contending hypotheses is no doubt due largely to the dearth of employer-level data, but even when such data have been obtained the issue of sexual inequality has not been fully explored (Bridges and Berk, 1974; Marsh and Mannari, 1976). Only Malkiel and Malkiel (1973) give a systematic empirical treatment of the issues. To achieve occupation-constant comparisons they confined attention to a group of professional employees of a large corporation. They report that the bulk of the structurally induced salary gap observed in their sample was due not to wage discrimination but rather to rank segregation, with women concentrated in the lower-paying grades of the job class.

This paper builds on and extends the work of Malkiel and Malkiel by examining male-female differences in the processes governing the earnings attainment of management personnel of a large firm in the utility industry. Unlike Malkiel and Malkiel, who limited comparisons to a single occupation-constant job class, my analysis encompasses the effects of the differential distribution of personnel across all the major job classes and hierarchical levels of the firm.

The central aim is to ascertain the degree to which the male-female salary gap in this firm is due directly to differences in rates of return to stocks of human capital (wage discrimination), or is indirectly created by inequalities in the distribution of men and women across job classes and hierarchical ranks (segregation).

Before outlining the mode of analysis something should be said about the character of the data. In the first place, the data are very old, having been originally collected by Oscar Grusky in 1960. Although somewhat dated, these data do constitute a valuable baseline against which to assess the findings of other studies as they accumulate. They represent a period prior to the advent of the women's liberation movement and well before adoption and full-scale implementation of legislation designed to curtail sexual discrimination in employment and pay. Furthermore, they precede in time the increases in female labor force participation witnessed in the mid and late 1960s and continuing into the 1970s.

Naturally, the value of using old data does depend on their typicality. An analysis based on data from one company is, of course, subject to the limits on external validity that apply to all case studies. I cannot prove that my findings are generalizable. However, I will present evidence which shifts the burden of proof to those who claim otherwise, and which suggests that the salary practices of this firm may be typical of other, especially large, employers. I will show that the overall male-female salary ratio, the overall male-female difference in salary structures, and male-female differences by marital status observed in this firm are remarkably comparable to those observed in aggregate analyses based on representative national samples. In other words, if one were to assume that the structure of sexual inequality in this firm is typical of other employers, then one would expect to find aggregate patterns of inequality very much like those actually observed.

The analysis is organized around a very simple model of the relation between earnings, position and human capital. The structural equations may be written as

$$P_i = a_i + b_i E_i + c_i(X_i) + u_i, \qquad (1)$$

and

$$\ln S_i = d_i + h_i P_i + g_i E_i + q_i(X_i) + v_i, \qquad (2)$$

where i = male/female, P indicates 'position' in the company, lnS is the natural logarithm of salary, E is years of schooling, and X is a vector of experience variables representing the accumulation of human capital through seniority, post-schooling work experience gained prior to entering the company, and positions held previously in other companies.[1] The reduced form of this system is

$$\ln S_i = a_i^* + b_i^* E_i + c_i^*(X_i) + e_i, \qquad (3)$$

where the coefficients are obvious combinations of the structural parameters in (1) and (2). Specifying separate equations for men and women allows for complete heterogeneity with respect to the structural processes determining salary levels. The first part of the analysis compares male and female reduced-form equations and examines the effects of marriage and children. This may be viewed as the employer-level analogue of the usual aggregate-level treatment of sexual inequality. The next step is to estimate the average difference in salary attributable to male-female differences in reduced-form coefficients; this gives us an overall measure of structurally induced sexual inequality. Finally, structural equation (2) is estimated, with 'position' (P) in the company represented by variables indicating an individual's job class and rank.[2] This provides the basis for a decomposition of structurally induced sexual inequality into its wage discrimination and employment segregation components.

2. DATA

The data pertain to management personnel of a California-based utility firm, at the time of the study the largest single enterprise of a major public utility holding company in the United States.[3] Questionnaires were distributed to all 2,198 managers of the firm; 1,649 (75%) usable, signed questionnaires were returned. A comparison by salary, sex (1,242 (75%) men and 405 (25%) women) and position revealed a close correspondence between the sample distributions and the respective 'population' distributions (Grusky, 1966). To handle missing observations listwise deletion was used, thereby reducing the N for all regressions to 1466 (1117 (76%) men; 349 (24%) women). The dependent variable is the manager's annual salary. Data on salary came precoded into nine intervals closely corresponding to the actual salary-bracket structure of the firm. For this analysis managers are assigned the natural logarithm of the dollar value of the midpoint of the interval into which they fall. For these data a semi-logarithmic specification of the salary equation yields a better fit than a linear specification. Furthermore, this type of specification means that the regression coefficients may be interpreted as partial elasticities indicating the percentage change in salary for a unit change in a given independent variable.

Education was originally measured on a six-point scale corresponding to grouped years of schooling. In order to facilitate the interpretation of the schooling coefficients the education categories are assigned a value approximately equal to the actual number of years of schooling completed.[4] Hence, coefficients of education are interpretable as percentage rates of return to a year of schooling.

The accumulation of human capital through experience is captured by three variables. First, I have data on the number of years each manager has been employed by the firm. Information on length of service came precoded into four four-year intervals, but for this analysis each manager is assigned the midpoint (2, 7, 12, and 17 years) of the interval into which he or she falls. Calculations not presented here indicate that, all things considered, this linear coding is preferable to a dummy-variable treatment of the seniority categories.

The second indicator of experience roughly captures the number of years in the labor force prior to entering the firm. This is estimated as the difference, age minus length of service minus schooling minus 5 (Featherman and Hauser, 1976; Rosenzweig and Morgan, 1976). For male careers, at least, this estimate appears to be an excellent proxy for actual years of work experience (Malkiel and Malkiel, 1973:696). It is much less valid for women because of the discontinuities in female labor force participation, especially during the post-schooling, child-bearing and homebuilding period of the life cycle (Mincer and Polachek, 1974). Consequently, we may expect some attenuation of the coefficients of this variable obtained for women relative to those obtained for men; this problem should be partially rectified when we consider the subgroup of single women.

The final indicator of post-schooling investment in human capital taps the breadth of experience gained in other companies. This is measured as the total number of positions held in other firms prior to coming to the utility firm. This variable is included in order to determine if a wide range of experience, quite apart from <u>years</u> of experience, is itself a factor in determining salary. If holding many positions in other firms

indicates the acquisition of valuable general (productive in many firms) rather than specific (productive in a particular firm) skills (Becker, 1975: 19-37), such an effect should appear.

3. FINDINGS

Sex, Human Capital and Managerial Salaries

Before considering the details of male-female differences in salary structures it pays to get an overall picture of the relative influence of sex and each of the human capital factors on earnings. To do this we take the complete set of observations and estimate the regression of salary on schooling, the experience variables, a sex dummy and a complete set of human capital by sex interactions. The total net explanatory power of a particular attribute may be calculated as the increment to R^2 resulting from the addition of all terms involving the attribute to a model containing all other terms (Kmenta, 1971: 456-457). For example, the total net contribution of schooling is the incremental R^2 attributable to the main effect of schooling and the schooling by sex interaction term. The results of such calculations are displayed in Table 1.

As indicated by the last column, all variables register a statistically significant impact on salary, although the strength of these effects varies considerably. Judging by the net contributions to explained variance, sex is the most powerful explanatory factor, with an incremental R^2 of 31%; this compares to 10.8% for seniority, 3.5% for schooling, and 0.32% and 0.23%, respectively, for work experience and previous organizational positions. However, in this instance the disparity in degrees of freedom associated with sex and each of the human capital factors make comparisons based on ΔR^2

somewhat misleading. A better basis for comparison is provided by the F-statistics, which measure the increase in explained variance per degree of freedom. By this creterion sex, while still predominant, now holds only a slight edge over seniority (199 compared to 175).

Are the structural processes governing the salary attainment of men and women significantly different? This question is already answered--strongly in the affirmative--by the statistics for sex in Table 1. The incremental R^2 of 30.7% represents the addition to explained variance achieved by moving from a model which constrains male and female structures to be the same to a model which is unconstrained with respect to both starting salary (intercepts) and rates of return to human capital. The F-statistic for sex is the test statistic corresponding to the null hypothesis of overall equality of structures; clearly, this hypothesis must be rejected. What these statistics do not reveal is the nature of male-female structural differences. In particular, we want to know whether overall structural differences represent disparities in starting salary or disparities in rates of return to schooling and experience as well.

Male-Female Salary Structures.

The sizeable sex differences observed above primarily reflect significant differences in the returns to schooling and experience--especially seniority--rather than in starting salary. This is clear from the estimates of the two salary structures given in Table 2. The figures in the first row indicate that the net male advantage in starting salary (8.33 vs. 8.30) is small and statistically insignificant.[5] A comparison of slopes, on the other hand, indicates a far more decisive male advantage.

Table 1. Total net contributions (ΔR^2) of sex and human capital factors to the variance explained in the salaries of managers of a utility firm, 1960 (N = 1388).

Attribute[a]	ΔR^2	df	F	P
Education	.0346	2	56.2	<.01
Work Experience	.0032	2	5.27	<.01
Previous Positions	.0023	2	3.69	<.05
Length of Service	.1077	2	175	<.01
Sex	.3069	5	199	<.01

[a]Each attribute is represented by all terms involving the relevant variable. For example, the statistics for 'education' refer to both the main effect of education as well as its interaction with sex. This way of assessing net contributions of particular variables in models containing interaction terms is standard practice (Kmenta, 1971: 456-457).

Table 2. Metric coefficients of regressions of (ln) salary on schooling, seniority work experience and previous positions in other firms, male and female managers of a utility company, 1960.

Independent Variables	Coefficients For[a] Total	Total With Sex	Male	Female
Constant	8.072	8.303	8.334	8.303
Sex (1=Male)		.0304 (0.32)		
Schooling	.0405 (12.4)	.0103 (1.66)	.0303 (9.76)	.0103 (2.32)
X Sex		.0200 (2.92)		
Seniority	.0267 (20.0)	.0167 (8.92)	.0214 (15.3)	.0167 (12.4)
X Sex		.0047 (2.05)		
Experience	-.0008 (1.12)	-.0001 (0.08)	.0021 (3.03)	-.0001 (0.11)
X Sex		.0022 (1.77)		
Previous Positions	.0155 (3.74)	.0109 (1.59)	.0081 (2.05)	.0109 (2.22)
X Sex		-.0028 (0.36)		
R^2	.245	.552	.206	.322
Standard Error	.230	.177	.190	.127
N of Cases	1466	1466	1117	349

[a]Appearing in parentheses below the coefficients are the t-ratios. Relevant critical values are: t (.05, one-tailed) = 1.66; t (.05, two-tailed) = 1.96; t (.01, two-tailed) = 2.33.

In the first place, for males and females alike seniority and schooling have a significant impact on salary, but on both counts the male coefficients significantly exceed those of females. The female return to a year of service with the firm amounts to 78% that of males, with women getting an average rate of return of 1.67% per year and men getting 2.14%. According to these estimates, women are at an even greater disadvantage with respect to the value of a year of schooling. Female returns are only 34% of male returns, with women getting 1.03% while men receive 3.03% per year of schooling. These patterns are consistent with other evidence from both aggregate (Featherman and Hauser, 1976) and firm-specific analyses (Malkiel and Malkiel, 1973).

Also consistent with other evidence is the male-female difference in the relative value of a year of schooling compared to a year of seniority. As measured by the ratio of metric coefficients, the rate of return to schooling relative to the return to seniority is greater for men than for women. Featherman and Hauser (1976) report ratios of 1.41 and 1.06, respectively, for husbands and wives; Malkiel and Malkiel (1973) report comparable figures of 1.50 and 1.12. We find the same pattern in Table 2, but with a difference: For women, a year of education is actually worth less than a year of seniority. The figures here yield an education-to-seniority ratio of 1.42 for men but only 0.61 for women. Hypothetically, this means that a female manager who temporarily leaves the firm to complete one additional year of schooling would, upon returning to work, receive a higher salary than when she left but still less than a comparable woman who remained with the firm and had one less year of schooling. For male managers, on the other hand, sacrificing a year of seniority for a year of schooling -- other things equal -- makes economic sense.

Male-female differences in salary regimes are less decisive when we consider the effects of post-schooling investments in experience made prior to entering the firm. To be sure, the estimates in Table 2 do indicate that the returns to a year of prior experience are significantly greater for men (0.22%) than for women (-.01%), but this variable, as already mentioned, is less valid for women. A sounder basis for comparison is the effect of experience acquired through holding previous positions in other firms. On this score women actually enjoy a slight advantage over men, each additional position yielding a 1.09% increase in their salary as compared to the 0.80% figure for men. This comparison should not overshadow the overall fact that, for men and women alike, having held previous positions has a small but still significant net impact on salary. In line with human capital theory, this may indicate that bredth of experience is itself a form of investment which yields valuable general skills.

Human capital theory also suggests that the inevitable decay and obsolescence of capital stock, coupled with a reduced incentive to invest in augmenting one's stock, will result after a time in diminishing returns to work experience and seniority. An analogous process may affect the returns to previous positions. Beyond a certain point, having held many previous positions--especially if they were in different organizations--may indicate employment instability rather than the acquisition of general skills. To determine if a process of diminishing rates of return to experience is present in these data and comparable for men and women, squared terms in seniority, work experience and previous positions were added to the equations in Table 2. In no instance were these terms, either taken singly or in combination, statistically significant. For men, the change in R^2 achieved by adding the 'decay' terms was .001

(F = 0.43); for women the increase was slightly larger, .009 (F = 1.49). Interestingly, there was a difference, though not significant, in the signs of the decay coefficients: the male coefficients were uniformly positive, while two of the three female coefficients were negative and even somewhat larger than their standard errors. Though this evidence is very slim, it does point to yet another way in which women managers are disadvantaged.

These comparisons of reduced form equations reveal that in virtually every respect women are at an economic disadvantage vis-à-vis men. This means that most of the variation in salary that is attributable to sex (30.7%, Table 1) -- and which may be viewed as a standardized measure of the overall level of structurally induced sexual inequality -- is generated by differences in coefficients that are unfavorable to the economic interests of women. The only difference that contributes to the overall level of inequality but leaves men at a disadvantage occurs with respect to the effect of previous positions, and this is very small.

Finally, we observe that for women (R^2 = .322), more than for men (R^2 = .206), salary is determined by a linear combination of schooling and experience. By the same token the conditional inequality in salary is less among women (.127) than among men (.190). Again, these patterns repeat the findings of aggregate level analyses (Featherman and Hauser, 1976).

Marital Status and Children.

The evidence available from other studies indicates that the effects of marital and familial responsibilities on salary are different for men and women (Treiman and Terrell, 1975; Polachek, 1975). Married men have a clear net salary advantage over their single counterparts, but just the opposite is true for women. Single women earn more than married women, and married women without children earn more than married women with children.

These different outcomes are usually explained in terms of the different implications family life has for the labor force commitment and human capital accumulation of men and women. Where men are concerned, marriage presumably reinforces or even heightens commitment to continuous labor force participation and its demands, thereby increasing men's stock of experience and increasing the willingness of employers to invest in them. For women, however, family life means dividing one's time between the demands of household production--including possibly childrearing--and the demands of work. This cuts down on the accumulation of experience and undermines the willingness of employers to invest in training married women. As a result of these divergent processes, the largest male-female salary differentials occur among married persons.

To determine if these patterns, observed for the labor force as a whole, also obtain for our within-employer comparisons, we add a dummy variable for marital status (1 = single; 0 = ever-married) and a term for number of children to the male and female salary equations.[6] The new equations are displayed in Table 3. Three points deserve attention. First, the addition of terms for marriage and children leave unchanged the conclusions drawn on the basis of the original estimates; none of the coefficients of the schooling or experience variables change enough to merit attention. Secondly, the overall pattern of effects of marriage and children observed in aggregate analyses is repeated here. Married men earn more, while married women earn less, than their single counterparts. However, neither of these differences taken singly, nor the difference in the difference marriage makes (i.e., sex by marriage interaction) is statistically significant. Similarly, married men with children earn more than men -- both married and single -- without children, while

Table 3. Metric coefficients of regressions of (ln) salary on human capital factors, marital status and children for male and female managers of a utility firm, 1960.

Independent Variables	Coefficients[a] For Total	Male	Female
Constant	8.318	8.312	8.318
Sex (1=Male)	-.0059 (0.05)		
Schooling	.0093 (1.56)	.0313 (9.99)	.0097 (2.18)
X Sex	.0216 (3.14)		
Seniority	.0161 (8.36)	.0208 (14.7)	.0161 (11.7)
X Sex	.0047 (2.01)		
Experience	.0003 (0.25)	.0023 (3.20)	.0003 (0.35)
X Sex	.0020 (1.54)		
Previous Positions	.0108 (1.56)	.0075 (1.91)	.0108 (2.18)
X Sex	-.0033 (0.42)		
Marriage (1=Single)	.0131 (0.47)	-.0327 (1.04)	.0131 (0.65)
X Sex	-.0457 (1.13)		
Children	-.0086 (0.91)	.0076 (1.57)	-.0086 (1.27)
X Sex	.0162 (1.55)		
R^2	.554	.210	.328
Standard Error	.177	.190	.127
N of Cases	1466	1117	349

[a]Appearing in parentheses below the coefficients are the absolute values of the t-ratios. Relevant critical values are: t (.05, one-tailed) = 1.65; t (.05, two-tailed) = 1.96; t (.01, two-tailed) = 2.33.

married women with children earn less than childless married women and single women. While these differences are larger than their respective standard errors, and while the difference in the effect children have on returns to men and women is 1.55 its standard error, overall the figures are small and statistically insignificant. Finally, and by way of summarizing these results, the patterns observed here hold true to expectations but are very weak. Overall, the incremental R^2 associated with the terms for marriage, children, and the corresponding sex interactions is only .002 ($F = 1.79$, n.s.).

Does marriage affect the rates of return to schooling and experience? The results just reviewed pertain to differences in intercepts by marriage, assuming equal slopes. The latter assumption may now be relaxed to determine if marital status conditions the effectiveness with which male and female managers translate their human capital into earnings. For reasons already discussed, we expect married men to have an advantage over single men, while just the reverse should obtain among women (Treiman and Terrell, 1975).

The equations in Table 4 estimate the effects of marriage on returns to human capital for men and women. Here again we find that, for the most part, the expected patterns clearly emerge but are based on differences that are statistically very small. Consider first the patterns that obtain with respect to schooling and seniority. Married men hold an edge in rates of return of 0.60% per year of seniority and 1.56% per year of schooling over single men. Among women the reverse is true, single women enjoying an advantage of 0.14% per year of schooling and 0.24% per year of seniority. Although neither the within- nor between-sex differences are statistically

Table 4. Metric coefficients of salary structures, by sex, by marital status, managers of a utility firm, 1960.

Independent Variables	Coefficients[a] For Males Single (1)	Males Married (2)	Diff (1-2)	Females Single (3)	Females Married (4)	Diff (3-4)
Constant	8.527	8.301	.226 (0.89)	8.296	8.325	-.030 (0.17)
Schooling	.0163 (1.00)	.0319 (9.96)	-.0156 (0.99)	.0109 (0.86)	.0095 (1.98)	.0014 (0.11)
Seniority	.0151 (2.07)	.0211 (14.6)	-.0060 (0.85)	.0181 (5.19)	.0157 (10.3)	.0024 (0.67)
Experience	.0007 (0.13)	.0023 (3.21)	-.0017 (0.35)	0.0 (0.0)	.0003 (0.35)	-.0003 (0.15)
Previous Positions	.0240 (0.89)	.0072 (1.82)	.0168 (0.66)	.0122 (0.79)	.0105 (2.00)	.0017 (0.11)
Children	--	.0077 1.59	--	--	-.0091 1.34	
R^{2}[b]	.129	.205	.002 (F = 0.58)	.369	.314	.002 (F = 0.18)
See	.203	.190		.136	.126	
N of Cases	45	1072		56	293	

[a]Appearing in parentheses below the coefficients are the absolute values of the t-ratios. Relevant critical values are: t (.05, one-tailed) = 1.67; t (.05, two-tailed) = 2.00; t (.01, two-tailed) = 2.36.

[b]The figures given in columns 3 and 6 represent the incremental R^2 associated with moving from a model which constrains the salary structures of single and married managers to be the same to a model which allows complete heterogeneity.

significant, the magnitudes of the coefficients indicate that--at least for schooling and seniority--marital status conditions the rates of return for men more than for women. The rate of return to schooling for single men is 49% less than it is for married men; for single women it is 15% more than for married women. With respect to seniority, single men fall 28% short of married men, while single women enjoy a 15% edge over their married counterparts.

Rows 4 and 5 of Table 4 give the coefficients pertaining to the value of experience gained prior to coming to the company. The figures for years of prior experience indicate that only married men receive any benefits at all on this count. Where women are concerned, the coefficients are very small, but the validity of this variable is suspect anyway. Somewhat more interesting are the coefficients for previous positions. among males and females alike, single managers do better than married managers, but the difference is larger for men. On this count, single men (.024) do twice as well as women (.0122 and .0105) and three times as well as married men (.0072), the latter group benefiting the least from previous positions. One explanation for this pattern might be that experience in other firms has its greatest effect on salary at the time a person assumes employment, but this marginal initial advantage 'decays' as length of service increases. The figures on the average seniority of the different subgroups are consistent with this explanation: single men have the least seniority (5.55 years) and married men the most (11.13 years), with women (9.36 years) falling between these two extremes. Of course, these observed patterns are also consistent with an explanation in terms of a temporal tremd toward increasing returns to previous positions, with recent recruits (single men) benefiting more than older cohorts (married men).

Finally, what can be said overall about the effect of marital status on male-female salary regimes? Two patterns dominate the results given in Table 4. First, marital status does not make much difference. Comparisons by marital status and by both marital status and sex yield statistically insignificant differences in salary structures. Secondly, as small as the differences are, they are larger in absolute value for men. A comparison of the 'difference' columns in Table 4 indicates that in every instance the absolute magnitudes for males exceed those for females. Hence, if marital status makes little difference, it makes a little more difference for men. While this may seem a bit surprising, it is consistent with the results obtained by Malkiel and Malkiel (1973).

Components of the Male-Female Salary Differential

The average salary of female managers amounts to only 66.8% of the average for male managers, a figure which is remarkably close to the findings of comparable aggregate as well as firm-specific analyses (Fuchs, 1974; Malkiel and Malkiel, 1973). The underlying gross sexual salary differential is $2726, and results from several factors. First, it results partly from the differential composition of the sexes with respect to productive resources. The means given in Table 5 show that women have lower average levels of education, seniority, and experience in other firms, characteristics which the company values and rewards. (Women also appear to have more years of prior experience, but this is an artifact of the rule used to construct this variable. In general, women have lower levels of labor force participation than men.) Second, part of the gross salary difference is due to differences in salary structures. While women earn a slightly higher rate of return to previous positions than men, for those resources that count most--schooling and seniority--their rates of return are signifi-

Table 5. Means and standard deviations of selected variables, male and female managers of a utility firm, 1960.

	Male		Female	
Variable	Mean	St. Dev.	Mean	St. Dev.
Salary (Ln)	9.01 ($8213)	.214	8.61 ($5487)	.154
Schooling	13.62	2.05	12.80	1.60
Seniority	10.91	4.53	9.35	5.20
Experience	8.98	9.05	12.06	9.18
Previous Positions	1.85	1.53	1.80	1.45
N of Cases	1117		349	

cantly lower. Finally, part of the gross difference cannot be uniquely attributed to either resource endowments or rate of return alone, but is shared by the two. This shared component reflects the fact than, across equations, the male-female difference in mean levels of resources is correlated with the difference in structural coefficients.

The decomposition procedure is straightforward (Winsborough and Dickinson, 1971). It is carried out on the logarithmic scale and then transformed linearly to the dollar metric. The average salary of women and men may be written as

$$\overline{\ln S_f} = h_f(\overline{E}_f, \overline{X}_f),$$

and $\overline{\ln S_m} = h_m)\overline{E}_m, \overline{X}_m),$

where $\overline{\ln S_f}$ = 8.61 ($5487) is the female average, $\overline{\ln S_m}$ = 9.01 ($8213) is the male average, $\overline{E}$ and $\overline{X}$ are the means of the schooling and experience variables, and h_f and h_m stand for the estimated reduced form salary structures given in Table 2. Now, the expected salary of women who are paid according to their own salary structure but have male levels of resources is $\ln S'_f = h_f(\overline{E}_m, \overline{X}_m)$; the expected salary of women who retain their own levels of resources but are paid at male prices is $\ln S''_f = h_m(\overline{E}_f, \overline{X}_f)$. From these values the compositional, structural and shared components may be calculated as $(\ln S'_f - \overline{\ln S_f}) = m_1$, $(\ln S''_f - \overline{\ln S_f}) = m_2$, and $(\overline{\ln S_m} + \overline{\ln S_f} - \ln S'_f - \ln S''_f) = m_3$, respectively. To transform the decomposition to the dollar metric the m's are expressed as percentages of $(\overline{\ln S_m} + \overline{\ln S_f}) = \Sigma m_i$, and the percentages are applied to the gross dollar difference of $2726.

The results are displayed in Table 6. The relatively small value of $237 for m_1 indicates that only a tiny fraction of the male-female salary gap is due to compositional differences between the sexes. Even at male levels of resources, the expected salary of females would be only $5724,

Table 6. Decomposition of the male-female salary gap; compositional, structural and shared components.

Components	Gross ($)	Percent
Total	$2726	100%
Compositional (m_1)	237	8.7
Structural (m_2)	2381	87.4
Shared (m_3)	108	3.9

just 69% of the actual male average. On the other hand, leaving female levels of resources unchanged but paying women at male prices would yield a dramatic increase in female salaries. The value of m_2 is \$2381, which accounts for 87% of the gross salary difference. The expected salary of women who are paid by the male rule is \$7868, or 95% of the male average.

These results indicate that most of the disadvantage of women is due to the unfavorable rate structure that governs their exchange of productive resources for earnings. The so-called structural component, m_2, may be considered an overall metric measure of the structurally induced economic disadvantage of women. At this point most aggregate analyses are forced to conclude with the observation that the structural component of the salary gap is evidence of wage discrimination or of inequality of opportunity. But the objective here is to determine how much of the disadvantage may be attributable to discriminatory pay practices and how much to employment segregation. This means introducing those dimensions of the employer-employee exchanged space defined by the structure of jobs nad the structure of the hierarchical ranks.

Jobs, Ranks and Inequality

What I call the job structure is simply the distribution of personnel across themajor job classes of the firm; the rank structure is the distribution of personnel across hierarchical levels. A cross-classification of the job structure by the rank structure produces a matrix of 'positions.'[8] The position is the main structural factor intervening between an individual's stock of productive resources and his or her salary. Salaries are more or less closely tied to positions, and more or less determined by the

job and rank of particular positions. In this section the implications of the structure of positions for the determination of salary are examined from two vantage points. First, I examine how differences in the distributions of men and women across positions results in differences in the process by which productive resources are transformed into salaries. I then assess the relative explanatory power of the wage discrimination and employment segregation hypotheses.

Before turning to the details of this analysis it pays to consider the actual job and rank distributions of men and women given in Table 7.[9] As these figures indicate, there is a large measure of both job and rank segregation along sexual lines. The upper panel shows that most of the women are operators (56%), with the remainder evenly divided between staff and secretarial jobs. Top manager, engineer and foreman are exclusively male job classes. Not surprisingly, the lowest concentrations of men are to be found in precisely those jobs--operators and secretaries--where women are most highly concentrated. The disparity in rank distributions is just as dramatic. The top three hierarchical levels of the firm are staffed exclusively by men. Women advance no higher than Rank IV (where Rank I is the highest), and very few (9%) manage to get even that high. Overall, 91% of the women are at Rank V or VI, while 64% of the men are at or above Rank IV.

The fact that the female job and rank distributions are more highly concentrated than the respective male distributions naturally implies that position in the firm -- viewed as a job-plus-rank combination -- is more strongly determinative of male salaries than of female salaries. This is borne out by the results of separate regressions of salary on the human capital variables and sets of job and rank dummies. For men, the net incremental R^2 associated with position (job plus rank) is .558 ($F = 260$),

Table 7. Percentage job and rank distributions, by sex, managers of a utility firm, 1960.

Variable	Male	Female
Jobs		
Top Mgr.	7.6 (85)	0
Engineer	21.8 (243)	0
Operator	7.3 (81)	56.7 (198)
Staff	34.3 (383)	21.2 (74)
Foreman	27.8 (311)	0
Secretary	01.3 (14)	22.1 (77)
	Total 100% (1117)	Total 100% (349)
Index of Dissimilarity	70.2	
Ranks		
I	1.5 (17)	0
II	6.8 (76)	0
III	14.4 (161)	0
IV	40.6 (454)	09.4 (33)
V	35.9 (401)	59.9 (209)
VI	00.8 (8)	30.7 (107)
	Total 100% (1117)	Total 100% (349)
Index of Dissimilarity	58.5	

while for women it is only .199 (F = 35). (For both sexes the net contribution of rank (male = .184, female = .114) exceeds that of job (male = .034, female = .042)). When the sexes are compared with respect to the net effect of human capital factors the contrast is just as dramatic but in the opposite direction: the net incremental R^2 due to human capital is .152 (F = 27) for women but only .046 (F = 54) for men.[10]

These figures indicate that the processes by which productive resources get translated into salaries are very different for men and women. Where men are concerned, position in the firm is clearly the dominant determinant of salary, with virtually all of the effect of human capital mediated by the position structure. Male stockes of human capital are first translated into positions of varying productivity, and then into salaries. This two-step process works for men because their rank and job distributions are dispersed enough to register almost all the variation in productive resources that is relevant for salaries. For women, on the other hand, position in the firm and human capital are about equally determinative of salaries. That is, part of the variation in productive resources among women is transformed into salaries via positions of varying productivity, but another substantial part registers a direct impact on salary. The relative size of this direct human capital component indicates, in effect, the degree to which the allocation of women among positions fails to register the range of variation in their productive potentials. The female rank and job distributions are too concentrated to transmit all the variation in productive resources that is relevant for salaries.

These conclusions are based upon the estimates of structural equation 2 given in Table 8. A comparison of the coefficients of the human capital variables allows a more detailed accounting of male-female differences in the processes by which productive resources are transformed into salaries.

Table 8. Metric coefficients of regressions of (ln) salary on human capital factors, job class and rank, by sex, for managers of a utility firm, 1960.

Independent Variables	Coefficients[a] For Males (1)	Females (2)	Diff (1-2)
Constant	8.409	8.288	.121 (1.68)
Schooling	.0032 (1.76)	.0054 (1.41)	-.0022 (0.52)
Seniority	.0112 (13.9)	.0122 (10.2)	-.0011 (0.76)
Experience	-.0000 (0.08)	-.0000 (0.0)	.0000 (0.0)
Previous Positions	.0004 (0.18)	.0078 (1.86)	-.0074 (1.59)
Jobs			
Top Mgrs.	.3875 (10.7)	----	----
Engineers	.2456 (7.79)	----	----
Operators	.2024 (6.20)	.0460 (2.80)	.1563 (4.27)
Staff	.2032 (6.52)	.1039 (5.44)	.0993 (2.72)
Foremen	.2102 (6.46)	----	----
Secretary	----	----	----
Ranks			
I	.7733 (15.1)	----	----
II	.4543 (10.3)	----	----
III	.3935 (9.49)	----	----
IV	.1776 (4.37)	.2055 (8.56)	-.0279 (0.59)
V	.1153 (2.80)	.0940 (6.30)	.0214 (0.49)
VI	----	----	----
R^2[b]	.764	.519	.029 (F = 29.4)
Standard Error	.104	.108	
N of Cases	1117	349	

[a] Appearing in parentheses below the coefficients are the absolute values of the t-ratios. Relevant critical values are: t(.05, one-tailed) = 1.67; t(.05, two-tailed) = 2.00; t(.01, two-tailed) = 2.36.

[b] The value in the 'diff' column gives the incremental R^2 associated with allowing complete heterogeneity by sex.

For males and females separately, the ratio of each metric coefficient to its counterpart in the reduced form equations (Table 2) gives the percent of the effect on salary that is not mediated by the position structure of the firm. As might be expected (though not logically implied by the results discussed above), in every instance these direct-to-total percentages turn out to be larger for women than for men. However, the important point is that these differences are especially great for those resources with which individuals enter the firm. For men the direct impact of schooling amounts to only 10% of its total effect; the corresponding percentages for prior work experience and previous position are 0.0% and 5%. In contrast, the female direct returns to schooling and previous positions amount to 52% and 72%, respectively, of the total returns. We have, then, a situation in which the productive resources men accumulate prior to employment with the firm are, in a sense, absorbed by the position structure, which in turn determines salary. The position structure faced by women, however, fails to absorb the productivity gained through investments in human capital made prior to entering the firm, so that such investments continue to have an impact on female salaries. With respect to experience acquired in the firm, the differences are much less dramatic, with the direct rate of return to seniority accounting for 52% and 72%, respectively, of the male and female total rates.

If the male and female human capital coefficients are directly compared we find that an even stronger conclusion is warranted: Net of the effect of jobs and ranks, women receive returns to their productive resources that exceed in magnitude those received by men. Even though the differences are small, the female coefficients of schooling, seniority and previous positions are larger than the male coefficients. In fact,

were it not for the male advantage in intercepts, women would be worse off than they are if they were paid according to male (direct) rates of return, even assuming they have male levels of productive resources.

These results are striking evidence of the commanding role of the structure of positions in determining male-female salary differences. To get a more exact estimate of relative significance the figures in Table 8 can be used to decompose the salary gap into its human capital and position structure components. The results (Table 9) underscore the significance of the structure of positions: Of the $2726 salary gap, $2124 (78%) is due directly to position structure factors, but only $602 (22%) is due directly to human capital factors.

The $602 assigned to human capital is interpretable as the amount by which female salaries would increase if women had male levels of and male direct rates of return to productive resources, but retained their own job and rank distributions and 'prices.' Under these assumptions the expected salary of women would be $6089 or 74% of the overall male average. Of this $602 increase, $466 is structural in nature, and all of this is due to the higher male intercept. This $466, representing the inequality due to differences in the direct returns to human capital, amounts to only 20% of the total level of structurally induced inequality.

This may be compared to the $2124 assigned to differences in position structures. This is interpretable as the amount by which female salaries would increase if women retained their own levels and direct returns to human capital, but had the male job and rank distributions and prices.[11] Under these assumptions the expected salary of women would be $7611, or 93% of the overall male average. Of this hypothetical improvement

Table 9. Human capital and position structure components of the male-female salary gap.

Components	Gross ($)	Percent
Total	2726	100%
Human Capital		
Compositional	155	5.7
Structural	466	17.1
Shared	-19	-.7
Total	602	22.1
Position Structure		
Jobs	1194	43.8
Ranks	930	34.1
Total	2124	77.9

in salary, $1194 is attributable to the job distribution and $930 to the rank distribution. Hence, even though within-sex salary variation is more strongly affected by rank than by job, the share of the male-female salary gap accounted for by differences in job distributions is larger than that due to differences in rank distributions. As Table 8 shows, there are significant salary differences between men and women holding operator and staff jobs, but virtually no difference between men and women at ranks IV and V of the hierarchy. If the salary advantage of male operators and staff is eliminated, the salary difference due to job distribution would fall from $1194 to $887, or just about the same as that due to ranks.

Another consequence of removing the salary advantage of male operators and staff would be the virtual elimination of the last trace of statistically significant sex differences in salary structures. Recall that the analysis of the reduced form equations showed that sex alone accounted for 30.7% of the variance in salary, and that most of this was generated by differences that left women at a disadvantage. Now we learn from Table 8 (bottom of last column) that introducing the rank and job variables reduces the incremental R^2 for sex to .029; that is, sex alone accounts directly for only about 3% of the variance, and most of this is due to sex differences in the pay of staff and operators. Roughly speaking, this means that only about 10% (.029/.307) of the variation in salary that is explained by sex is transmitted directly and due to denying women "equal pay for equal work." The remaining 90% -- or roughly 28% of the total variation in salary -- is transmitted indirectly via sex differences in job and rank distributions. But net of the sex salary differential for staff and operator jobs, the only remaining and significant male-female difference represents employment segregation--the exclusion of women from the higher-paying jobs and ranks and their confinement to the lower echelons of the reward structure.

These results leave no doubt about the major source of sexual inequality in this firm. Sexual segregation of the job and rank structures--not "unequal pay for equal work"--accounts for the bulk of the male-female earning difference. To be sure, women do get paid less than comparable men in the same job class; but segregation of the job structure makes the occurence of men and women in the same job class so infrequent that this makes only a minor contribution to the overall level of inequality. Most of the inequality due to male-female differences in job structures is created by the complete exclusion of women from the higher-paying jobs. Whether the women currently employed in this firm are actually equipped with the special skills required to enter these jobs is quite beside the point. The inequality attributable to segregation is the same regardless of whether segregation itself is due to exclusionary practices in hiring or in assignment to training programs leading to particular job classes. Whether the firm suddenly reassigns sixty women to a higher-paying job class, or hires sixty women for such jobs, is really immaterial; both moves would lead to a substantial decrease in sexual inequality.

The nature of the effect of male-female differences in rank distributions is much more transparent. All of the inequality generated by differences in rank structures is itself due to the exclusion of women from the top three levels of the hierarchy. Of course, some of this is due indirectly to the exclusion of women from job classes whose ladders lead to high corporate rank, but even if attention is confined to within-job comparisons the inequality attributable to segregation remains high. Separate analyses of 'staff' and 'operator' personnel reveal that rank

segregation accounts for 72% and 90%, respectively, of the variance in salary attributable to sex alone. Nor can their lower average levels of productive resources account for the fact that women tend to be confined to the lower levels of the hierarchy. Where women lose out most is in rates at which their stocks of productive resources are exchanged for higher ranks. Among operators, 84% of the male-female difference in average rank is accounted for by the structural component; among staff personnel, all of the rank difference is structural in origin.

4. SUMMARY AND CONCLUSIONS

In this paper I have examined within-employer differences in the processes governing the salary attainment of male and female personnel of a large corporation. The advantages of a firm-specific analysis of sexual inequality are twofold. First, male-female earnings differences due to the differential distribution of men and women across high- and low-paying employers are automatically controlled. Second, a firm-specific analysis permits an assessment of the degree to which gross sexual salary differences are due directly to disparities in the rates of return to human capital, as asserted by the wage discrimination hypothesis, or due indirectly to the unequal distribution of the sexes across high- and low-paying positions, as suggested by the employment segregation hypothesis.

The first part of the analysis was devoted to ascertaining the overall degree and nature of sexual differences in salary regimes. Estimation of a reduced form human capital model of salary determination showed that sex alone accounted for almost 31% of the variance in salary. An examination of the actual coefficients revealed that most of this sex difference was due to sizable male-female disparities

in the rates of return to schooling and seniority. On both counts men hold a decisive advantage over women, the advantage being especially large with respect to returns to schooling. On the other hand, male-female differences in the returns to post-schooling investments in experience made prior to entering the firm were either incomparable (years of experience) or inconsequential (previous positions).

On the whole the results obtained using the reduced form equations were comparable to those generated by aggregate and other firm-specific analyses. So too was the pattern of findings bearing on the effects of marriage and children on salary. As expected, marital and familial responsibilities translate into a salary advantage for men but represent a disadvantage for women. However, both the within- and between-sex differences by marital status were, statistically speaking, extremely small.

The next stage of the analysis was devoted to ascertaining the effects of male-female differences in job and rank distributions. I began by examining how sexual segregation shapes the process by which male and female stocks of productive resources are transformed into salary. Among men, virtually all of the variation in human capital that is relevant for salaries is first transformed into positions of varying productivity, which in turn register the dominant direct effect on salary; the remaining and direct effect of human capital is only marginally significant. Where women are concerned, however, the magnitudes of the direct effects of position structure and human capital are more balanced. Because female job and rank distributions are so concentrated, they fail to transmit all the variation in human capital that is relevant for salaries, leaving a relatively large effect of human capital to be registered directly.

I then sought to assess the relative significance of wage discrimination and employment segregation as sources of sexual inequality. Using the structural equations for the determination of salary, I was able to estimate the extent to which the overall level of structurally induced inequality was generated directly by disparities in rates of return to productive resources or created indirectly by sex differences in job and rank distributions. The comparisons -- carried out with respect to both the actual male-female salary gap and the proportion of variation in salary accounted for by sex -- revealed that the major source of inequality was job and rank segregation along sexual lines. In contrast, male-female differences in pay for the same position accounted for only a small fraction of the overall level of sexual inequality.

Even though sexual inequality can be traced to segregation of the job and rank distributions, the two forms of segregation must themselves be considered separately. Job segregation is a characteristic of the hiring and/or job assignment process, and reflects the dearth of qualified women and/or the company's decision not to consider women for certain positions. The latter seems more likely for these data, since a shortage of qualified women could not explain why females are completely excluded from higher-paying jobs. Moreover, male and female average levels of human capital are not all that different (Table 5).

Rank segregation, on the other hand, is exclusively a property of the reward structure of the firm, and more closely reflects company policy. Given that both men and women are hired for the same job, rank segregation results when the company fails to promote women to the highest ranks to which the job leads. In this company rank segregation occurs not because of sex differences in levels of productive resources, but because female human capital is transformed into higher rank at a lower rate than obtains

for men. In a manner of speaking, rank segregation reflects "unequal rank for equal qualifications."

Finally, something should be said about what this analysis has not accomplished. I have treated the level of structurally induced inequality as a given fact, and have shown that it is due more to disparities in the rules governing the allocation of positions than to those regulating the distribution of pay per se. But to identify the relative strength of alternative sources of inequality is not to explain why women are disadvantaged in the first place. To be sure, from the outset I have followed the major theories of inequality and attributed male-female earnings differences to discrimination, be it in pay or employment. However, the discrimination hypothesis is just that, a hypothesis and not a fact. None of the evidence presented here--and this holds for other analyses of sexual inequality--actually documents the operation of discriminatory practices. At the same time it should be said that discrimination is the most compelling hypothesis available, especially as an explanation of sexual segregation. Sex differences in pay for the same job, on the other hand, may be explained by male-female differences in productivity resulting from many minor but omitted differences in resource endowments; in any case, there is very little evidence anywhere that would lead us to believe that within-employer differences in pay for the same job account for more than a tiny fraction of the level of sexual inequality.[12] But segregation is another matter altogether; here the discrimination hypothesis seems especially persuasive. A company intent on paying women less need only establish a single company-wide salary system and then assign women to the lower-paying positions. My data fit this pattern; the data analyzed by Malkiel and Malkiel, which differ from mine in so many major respects, yield the identical pattern.

But why an employer would wish to exclude women from some jobs and confine them to the lower ranks of others is still a mystery. Are employers expressing a 'taste' for discrimination, succumbing to pressure applied by male employees, or conforming to industry or cultural norms? More research on specific employers and types of employers should help answer such questions.

NOTES

[1]Father;s occupation, father's education and nativity (local-, extralocal-, and foreign-born) had no direct effect on the salaries of either men or women, and therefore were excluded from the analysis.

[2]Structural equation 1 is a mock relation and need not be estimated.

[3]This company's definition of management personnel cuts across the Census classification of occupations. For example, among men, foremen and some engineers are classified as management personnel; among women, clerical supervisors and some secretaries hold 'managerial' rank. Hence, the array of jobs captured by this sample tends to represent the middle and upper reaches of the occupational hierarchy. We note in addition that all persons in the sample either started at the managerial level (14%) or were promoted from nonmanagement positions (86% for both men and women).

[4]The education codes are: less than high school - 8; some high school - 10; high school graduate - 12; some college - 14; college graduate - 16; post-graduate work - 18.

[5]The starting salary interpretation of the intercept is used here informally. For a more formal treatment see Wise (1975).

[6]Calculations not presented here indicate that the single vs. ever-married contrast captures most of the variation in salary that is due to marital status. A finer classification of the ever-married (married, divorced, separated, and widowed) turned up no significant differences in salary. We should also mention that the effect of having children, especially among women, is probably greater than the variable 'number of

children' would indicate. Ideally, information on the age and spacing of children would be included, but it was not available for this analysis.

[7]An alternative means of returning to the dollar metric is as follows. We can define:

$$\bar{S}_f = \exp(h_f(\bar{E}_f, \bar{X}_f))$$
$$\bar{S}_m = \exp(h_m(\bar{E}_m, \bar{X}_m))$$
$$S'_f = \exp(h_f(\bar{E}_m, \bar{X}_m))$$
$$S''_f = \exp(h_m(E_f, X_f)) ,$$

where the notation is an obvious analogy to the text. Then the components may be calculated as $(S'_f - \bar{S}_f) = m_1$, $(S''_f - \bar{S}_f) = m_2$, and $(\bar{S}_m + \bar{S}_f - S'_f - S''_f) = m_3$. This yields values of m_1=196, m_2=2318, and m_3=212, which are very close to the corresponding figures in Table 6.

[8]The term 'position' is used here and throughout as a short-hand way of referring to a job-plus-rank additive combination; no interaction of the job and rank classifications is implied.

[9]The rank categories represent a classification of the company's job titles according to the authority and responsibility associated with them; for details consult Grusky (1966: p. 491).

[10]Another way to look at this is to decompose the total effect of human capital, as given by the respective R^2's for the reduced form equations, into its direct and indirect components. Hence, among men the total R^2 is .206, of which .046 or 22% is registered directly and .160 or 78% is mediated by the position structure. The comparable figures for women are .152 or 47% and .170 or 53%, respectively.

[11]In assessing the importance of position structure factors, and thus of employment segregation, I have lumped together differences in both the coefficients of the job and rank dummies and in the distribution of the sexes across these categories. Now one may argue that segregation refers only to differences in distributions, and that salary differences due to differences in coefficients reflect wage discrimination. A decomposition based on this assumption yields the result that 47% of the salary difference is due to wage discrimination and 53% to segregation. But what this decomposition overlooks is that differences in coefficients may actually reflect fine differences in job grades and ranks that are not captured by my crude classification. Furthermore, it takes no account of the possible interaction of jobs and ranks. Hence, we find a large male-female difference in the coefficients of the job class "operators," but a within-job analysis reveals that only 25% of the inequality among operators is due to wage discrimination; fully 75% is due to rank segregation (Halaby, forthcoming).

[12]That the within-employer sexual inequality generated by unequal pay for the same job is so small suggests that, with respect to societal-level sexual inequality, between-employer sex differences in pay for the same job may be more important. Ironically, the type of jobs for which between-employer sex differences in pay are likely to be greatest are precisely those from which some employers exclude women. Hence, the exclusion of women from foreman, engineer and top manager jobs by this company and others like it has the effect of reducing the overall demand for women while increasing their supply to firms that do not segregate these jobs by sex. The firm which hires female foremen, engineers and top managers would, acting rationally, be able to pay them less than comparable men holding the same job in a

segregationist firm. In this way job segregation by some firms may account for between-employer sex differences in pay for the same job.

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